

## **Remarks**

### *The Present Invention and the Pending Claims*

The present invention relates generally to the field of speech recognition. More particularly, the invention discloses a technique for disambiguating speech input using one of voice mode interaction, visual mode interaction, or a combination of voice mode and visual mode interaction.

Claims 1, 4-5, 7-8, and 11-14 are currently pending. Reconsideration and allowance of the pending claims is respectfully requested.

### *Summary Of Office Interview*

Applicant acknowledges with appreciation the office interview granted by Examiner Rider to applicant at which Examiner Rider found that for claim 1 and 11, the presentation of alternatives to the user and the selection of an alternative by the user defines over Lai.

### *Summary of the Office Action*

Claims 1, 4, 6-8, 11 and 14 are rejected under U.S.C. 102(b) as being anticipated by Lai et al. (USPN 6,006,183) referred to as Lai hereinafter.

Claim 2 is rejected under 35 U.S.C 103(a) as being unpatentable over Lai.

Claim 3 is rejected under 35 U.S.C 103 (a) as being unpatentable over Lai in view of Bennett et al. (USPN 6,633,846) referred to as Bennett hereinafter.

Claims 5 and 12-13 are rejected under 35 U.S.C 103(a) as being unpatentable over Lai in view of Haddock et al. (USPN 5,265,014) referred to as Haddock hereinafter.

Claims 9-10 are rejected under 35 U.S.C 103 (a) as being unpatentable over Lai in view of Bond et al. (USPN 6,539,348) referred to as Bond hereinafter.

*Amendments To The Claims*

Claims 2-3, 6, and 9-10 are cancelled.

Claims 4-5, 7-8 and 12-14 is retained in its original form.

Claims 1 and 11 are currently amended. Support for the amendments in claims 1 and 11 are found at paragraphs [0027], [0028], and [0030].

The office action states that: **“Claims 1, 4, 6-8, 11 and 14 are rejected under U.S.C. 102(b) as being anticipated by Lai et al. (USPN 6,006,183) referred to as Lai hereinafter.”**

MPEP section 2131 provides, in pertinent part: “To anticipate a claim, the reference must teach every element of the claim. ...A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference..... The identical invention must be shown in as complete detail as is contained in the ...claim”.

Applicant’s system for disambiguating speech input comprises, in part, a disambiguation component that presents two or more alternatives to a user in voice mode, visual mode, or a combination of voice mode and visual mode and receives an alternative selected by the user in voice mode, visual mode, or a combination of voice mode and visual mode. In contrast, Lai describes a color mapping technique for mapping the word recognition scores to different colors from a color map in order to display the words with mapped colors (see Lai, col. 3, lines 49-55). Lai does not teach the presentation of alternatives to the user in voice mode, visual mode, or a combination of voice mode and visual mode, and the selection of an alternative by the user in voice mode, visual mode, or a combination of voice mode and visual mode. Accordingly, Lai does not describe, either expressly or inherently, the following limitations of applicant’s claim 1:

“a selection component that identifies, according to a selection algorithm, which two or more tokens are to be presented to a user as alternatives, wherein said alternatives are words or tokens” and,

“one or more disambiguation components that present the alternatives to the user in one of voice mode, visual mode, or a combination of voice mode and visual mode, and receive an alternative selected by the user in one of voice mode, visual mode, or a combination of voice mode and visual mode”.

Therefore, applicant respectfully submits that claim 1 is novel over Lai, and that the rejection of claim 1 be withdrawn.

Claim 11 is a method claim corresponding to system claim 1. Like claim 1, applicant’s method for disambiguating speech comprises, in part, presenting two or more alternatives to the user and receiving a selection of an alternative from the user using one of voice mode, visual mode, or a combination of voice mode and visual mode. Accordingly, Lai does not describe, either expressly or inherently, the following limitations of applicant’s claim 11:

“selecting two or more tokens to be presented to the user as alternatives, wherein said alternatives are words or tokens;

presenting the alternatives to the user in one of voice mode, visual mode, or a combination of voice and visual mode, and receiving a selection of an alternative from the user in one of voice mode, visual mode, or a combination of voice mode and visual mode”.

Therefore, applicant respectfully submits that claim 11 is novel over Lai, and that the rejection of claim 11 be withdrawn.

Claim 4 is dependent on claim 1. Since claim 1 is not anticipated by Lai, claim 4 that is dependent on claim 1 is also not anticipated by Lai. Therefore, applicant respectfully submits that claim 4 is novel over Lai, and that the rejection of claim 4 be withdrawn.

Claim 14 is dependent on claim 1. Since claim 11 is not anticipated by Lai, claim 14 that is dependent on claim 11 is also not anticipated by Lai. Therefore, applicant respectfully submits that claim 14 is novel over Lai, and that the rejection of claim 14 be withdrawn.

For the reasons stated above, applicant respectfully submits that claim 1, 4, 11, and 14 are novel over Lai, and that the rejection of claims 1, 4, 11 and 14 be withdrawn.

Claim 6 has been cancelled, and hence the rejection of claim 6 is moot.

Claim 7 is dependent on claim 1. Since claim 1 is not anticipated by Lai, claim 7 that is dependent on claim 1 is also not anticipated by Lai. Therefore, applicant respectfully submits that claim 7 is novel over Lai, and that the rejection of claim 7 be withdrawn.

Claim 8 is dependent on claim 7. Since claim 7 is not anticipated by Lai, claim 8 that is dependent on claim 7 is also not anticipated by Lai. Therefore, applicant respectfully submits that claim 8 is novel over Lai, and that the rejection of claim 8 be withdrawn.

The office action further states **“Claim 2 is rejected under 35 U.S.C 103(a) as being unpatentable over Lai.”**

Claim 2 has been cancelled, and hence the above rejection is moot.

The office action further states **“Claim 3 is rejected under 35 U.S.C 103 (a) as being unpatentable over Lai in view of Bennett et al. (USPN 6,633,846) referred to as Bennett hereinafter.”**

Claim 3 has been cancelled, and hence the above rejection is moot.

The office action further states **“Claims 5 and 12-13 are rejected under 35 U.S.C 103(a) as being unpatentable over Lai in view of Haddock et al. (USPN 5,265,014) referred to as Haddock hereinafter.”**

MPEP section 2142 states: “To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, not in applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”

First, in response to the rejection of claims 5, 12, and 13 over Lai, in view of Haddock, it is submitted that there is no teaching, suggestion or motivation in Lai or Haddock, or in the knowledge generally available to one of ordinary skill in the art, that a method of indicating the level of confidence the system has in its speech recognition as described in Lai, and a method for disambiguating natural language queries using referential input by a user as described in Haddock can be combined to arrive at the limitations recited in claims 5, 12, and 13, namely,

“wherein the disambiguation components present the alternatives to the user in a visual form and allow the user to select from among the alternatives using a voice input” of claim 5.

“where the interaction comprises the **concurrent use of said visual mode and said voice mode.**” of claim 12.

“wherein the interaction comprises the user **selecting from among the plural alternatives using a combination of speech and visual-based input**” of claim 13.

The disambiguation components such as the output generator and the input handler in the present invention (see paragraphs [0027] and [0028]) allow multimodal interaction including voice mode interaction, visual mode interaction, or a combination of voice mode and visual mode for a user with the disambiguation mechanism for the purposes of disambiguating speech input in case of an ambiguous speech input recognition. Claims 5, 12, and 13 (by virtue of their dependence to claims 1 and 11) recite different instances of multimodal interaction of the user with the system for disambiguating speech input using the disambiguation components. In contrast, Haddock relates to a non-analogous art of resolving referential ambiguity in a natural language database query by using referential inputs, and does not relate to the art of speech recognition per se (see Haddock, col. 4, lines 1 to 4: “*The computer system uses the referential input to **resolve any referential ambiguity in the textual input** and thereby provide an unambiguous input which can then be used, for example, to obtain information from a database*”). The referential input in Haddock is used to remove ambiguous referential elements in an unambiguous database query (i.e., unambiguous with respect to speech), unlike disambiguating an ambiguous speech input (i.e., ambiguous with respect to speech) in the present invention.

Second, there is no teaching, suggestion or motivation in Lai and Haddock of the following limitations recited in applicant’s claims 5, 12 and 13:

“wherein the disambiguation components present the alternatives to the user in a visual form and allow the user to select from among the alternatives using a voice input” of claim 5.

“where the interaction comprises the **concurrent** use of said visual mode and said voice mode” of claim 12.

“wherein the interaction comprises the user selecting from among the plural alternatives using a combination of speech and visual-based input” of claim 13.

Common sense dictates that a person of ordinary skill in the art, at the time the invention was made, would not combine the method of indicating the level of confidence the system has in its speech recognition as described in Lai and the method for disambiguating natural language queries using referential input by a user as described in Haddock to arrive at the claimed invention because Lai and/or Haddock show no recognition or appreciation of the following limitations recited in claims 5, 12, and 13:

“wherein the disambiguation components present the alternatives to the user in a visual form and allow the user to select from among the alternatives using a voice input” of claim 5.

“where the interaction comprises the **concurrent** use of said visual mode and said voice mode” of claim 12.

“wherein the interaction comprises the user selecting from among the plural alternatives using a combination of speech and visual-based input.” of claim 13.

Furthermore, neither Lai nor Haddock identified or recognized the problem sought to be solved by the applicant, namely, presenting the speech recognition alternatives in one of voice mode, visual mode, or a combination of voice mode and visual mode, and allowing the user to select an alternative in voice mode, visual mode, or a combination of voice mode and visual mode. Since, Haddock relates to a non-analogous art of resolving referential database queries, one skilled in the art would not likely use Haddock, alone or in combination with another reference, to attempt to solve the problem.

For the reasons stated above, applicant respectfully submits that claims 5, 12, and 13 are not obvious over the cited references, and applicant solicits reconsideration of the rejection and allowance of claims 5, 12, and 13.

The office action further states **"Claims 9-10 are rejected under 35 U.S.C 103 (a) as being unpatentable over Lai in view of Bond et al. (USPN 6,539,348) referred to as Bond hereinafter."**

Claim 9 has been cancelled, and hence the rejection of claim 9 is moot.

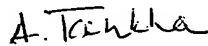
Claim 10 has been cancelled, and hence the rejection of claim 10 is moot.

*Conclusion*

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If, in the opinion of Examiner Rider a telephone conference would expedite the prosecution of this application, Examiner Rider is requested to call the undersigned.

Respectfully submitted,

Date: March 7, 2008



Ashok Tankha, Esq.  
Attorney For Applicant  
Reg. No. 33,802  
Phone: 856-266-5145

Correspondence Address  
36 Greenleigh Drive  
Sewell, NJ 08080  
Fax: 856-374-0246